



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/038,641	01/02/2002	Dave A. Wiebelhaus	501007-A-01-US (Clark)	9141

2292 7590 03/01/2004

BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

MAYO III, WILLIAM H

ART UNIT	PAPER NUMBER
----------	--------------

2831

DATE MAILED: 03/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/038,641	Applicant(s) WIEBELHAUS ET AL.	
	Examiner William H. Mayo III	Art Unit 2831	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Oath/Declaration

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:
~~Non-initialed and/or non-dated alterations have been made to the oath or~~
declaration. See 37 CFR 1.52(c).

Specifically, John A Milsaps name contains a non initialed alteration and therefore is defective.

Drawings

2. The drawings were received on December 4, 2003. These drawings are approved.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-6, 11-17, and 22-25, 28-30 rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Own Admission of Prior Art (herein referred to as AOAPA) in view of Haugwitz (DE 697,378). AOAPA discloses an electrical cable (Fig 2) having reduced cross talk (Page 7, lines 5-10). Specifically, with respect to claim 1, AOAPA discloses an electrical cable (20, Fig 2) comprising a plurality of longitudinally extending twisted pairs (14) of conductive elements (i.e. conductors), at least one tape member (22) separating the at least one of the twisted pairs of conductive elements (top 14) from an adjacent one of the twisted pairs of conductive elements (middle 14), wherein the tape member (22) separates and maintains spacing between the twisted pairs (14) separated by the tape member (22, Page 7, lines 5-10), and a dielectric jacket (12) surrounding and enclosing the plurality of twisted pairs (14). With respect to claim 2, AOAPA discloses that the cable (20) comprises four twisted pairs (14, Fig 2) and the tape member (22) separates two of the twisted pairs (middle 14) from the remaining two twisted pairs (top and bottom 14). With respect to claim 3, AOAPA discloses that the cable (20) comprises more than one tape member (top and bottom 22). With respect to claim 4, AOAPA discloses that the cable (20) comprises at least one tape member (top

Art Unit: 2831

22) and at least one other means (bottom 22) for separating and maintaining spacing between the twisted pairs (14, Col 3, lines 55-59). With respect to claim 5, AOAPA discloses that the tape member (22) may be made of a flexible dielectric material (Pages 6 & 7, lines 26-30 & 1-3, respectively). With respect to claim 6, AOAPA discloses that the tape member (22) may be made of polyamide woven glass, polyvinyl chloride, one or more polyolefins, and one or more fluoropolymers (Page 6 & 7, lines 26-30 & 1-3 respectively). With respect to claim 13, AOAPA discloses that the cable (20) comprises a plurality of tape members (top and bottom 22) for separation of the twisted pairs (14). With respect to claim 14, AOAPA discloses that the cable (20) comprises a tape member (top 22) for separating at least one of the twisted pairs (top 14) from the remainder of the twisted pairs (14). With respect to claim 16, AOAPA discloses that the tape member (22) may be made of a fire retardant polypropylene material (i.e. FEP known as TEFLON, Page 7, lines 1-3). With respect to claim 17, AOAPA discloses a tape member (22) being incorporated in an electrical cable (20) to separate twisted pairs of conductive elements (14) contained therein, comprising a length of the tape member (22) configured along a length of the twisted pairs (14) and electrical cable (20, Page 7, lines 5-10). With respect to claim 24, AOAPA discloses that the cable (20) comprises a plurality of tape members (top and bottom 22) for separation of the twisted pairs (14). With respect to claim 25, AOAPA discloses that the cable (20) comprises a tape member (top 22) for separating at least one of the twisted pairs (top 14) from the remainder of the twisted pairs (14). With respect to claim 28, AOAPA discloses that the tape member (22) may be made of a flexible dielectric

Art Unit: 2831

material (Pages 6-7, lines 26-30 & 1-4, respectively). With respect to claim 29, AOAPA discloses that the tape member (22) may be made of polyamide woven glass, polyvinyl chloride, one or more polyolefins, and one or more fluoropolymers (Pages 6-7, lines 26-30 & 1-4, respectively). With respect to claim 30, AOAPA discloses that the tape member (22) may be made of a fire retardant polypropylene material (i.e. FEP known as TEFLON, Page 7, lines 1-3).

However, AOAPA doesn't necessarily disclose the tape member being corrugated (claims 1 & 17), nor the cable comprising at least one corrugated tape member (claim 3), nor the corrugated tape being corrugated across a width of the tape (claim 11 & 22), nor the corrugations across the width of the tape comprising ridges and grooves having a corrugation length measured from a first ridge to a second ridge being approximately 0.06 inches (claim 12 & 23), nor the tape having a thickness exceeding the actual thickness of the tape member (claim 14), nor the tape member providing spacing of the conductors that equals or exceeds a spacing achieved by a flat tape member having an equivalent actual thickness (claim 15).

Haugwitz teaches electrical cable (Figs 1-10) having a cable separator in the form of an cross for maintaining the uniform spacings of the conductors (Page 2, left column, lines 15-20 & 40-55). Specifically, with respect to claims 1 & 17, Haugwitz teaches a cable (Figs 1-3) that comprises conductors (b) that are separated from each other by a insulative spacer (a) that may be corrugated (Page 2, right column, lines 75-85, Figs 9-10). With respect to claim 3, Haugwitz teaches that the cable (Figs 1-3) may comprise at least one corrugated member (Figs 9-10). With respect to claims 11 & 22,

Haugwitz teaches that the corrugated tape member (Figs 9-10) is corrugated across a width of the tape (Figs 9-10, Page 2, right column, lines 75-85). With respect to claims 12 & 23, Haugwitz teaches that the tape (a) may be corrugated, comprising ridges (denoted 5) and grooves (denoted as 10) having a corrugation length (see Fig 10) measured from a first ridge to a second ridge (5). With respect to claim 14, Haugwitz teaches that the tape (Fig 9) has a thickness exceeding the actual thickness of the tape member (Fig 9). With respect to claim 15, Haugwitz teaches that the tape member (Fig 9) provides a spacing of the conductors (b) that equals or exceeds a spacing achieved by a flat tape member having an equivalent actual thickness (see Figure 10).

With respect to claims 1, 3, 11-12, 14-15, 17, and 22-23, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the tape member of AOAPA to comprise the corrugated tape configuration as taught by Haugwitz because Haugwitz teaches that such a configuration maintains the uniform spacings of the conductors (Page 2, left column, lines 15-20 & 40-55) and since it has been held that a change in form cannot sustain patentability where involved is only extended application of obvious attributes from a prior art. *In re Span-Deck Inc. vs. Fab-Con Inc.* (CA 8, 1982) 215 USPQ 835.

With respect to claim 12 & 23, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the length of corrugations of modified AOAPA to comprise a length of approximately 0.06 inches, since it has been held that discovering an optimum value of a result effective variable

involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980)

6. Claims 1, 7-10, 17, 18-21, and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Own Admission of Prior Art (herein referred to as AOAPA) in view of Roberts (Pat Num 3,244,799). AOAPA discloses an electrical cable (Fig 2) having reduced cross talk (Page 6, lines 5-9). Specifically, with respect to claim 1, AOAPA discloses an electrical cable (20) comprising a plurality of longitudinally ~~extending twisted pairs (14) of conductive elements (i.e. conductors), at least one tape~~ member (22) separating the at least one of the twisted pairs of conductive elements (top 14) from an adjacent one of the twisted pairs of conductive elements (middle 14), wherein the tape member (22) separates and maintains spacing between the twisted pairs (14) separated by the tape member (22, Page 7, lines 5-10), and a dielectric jacket (12) surrounding and enclosing the plurality of twisted pairs (14). With respect to claim 17, AOAPA discloses a tape member (22) being incorporated in an electrical cable (20) to separate twisted pairs of conductive elements (14) contained therein, comprising a length of the tape member (22) configured along a length of the twisted pairs (14) and electrical cable (20, Page 7, lines 5-10).

However, AOAPA doesn't necessarily disclose the tape member being corrugated (claims 1 & 17), for the tape member having a width of approximately 0.12-0.4 inches (claims 7 & 18), nor the tape member having a thickness of approximately 8-12 mils (claims 8 & 19), nor the corrugated tape being corrugated across a length of the tape (claims 9 & 20), nor the corrugations across the length of the tape comprising

ridges and grooves having a corrugation length measured from a first ridge to a second ridge being approximately 0.12 inches (claims 10 & 21), nor the tape having a thickness exceeding the actual thickness of the tape member (claim 26), nor the tape member providing spacing of the conductors that equals or exceeds a spacing achieved by a flat tape member having an equivalent actual thickness (claim 27).

Roberts teaches electrical cable (Figs 1-7) having a dielectric tape in the form of surrounding a group of conductors, wherein the dielectric tape acts as a barrier,

provides effective air spaces in the area of the cable core (Col 2, lines 51-55), provides pneumatic cushioning against mechanical forces applied to the cable that might otherwise damage the conductor insulation (Col 2, lines 58-61), and prevents moisture that may change the electrical properties of the cable (Col 2, lines 65-69). Specifically, with respect to claims 1 & 17, Roberts teaches a cable (Fig 2) that comprises conductors (10) that are surrounded a dielectric tape member (11) that may be corrugated (Fig 5). With respect to claims 7 & 18, Roberts discloses that the tape member (22) has a width of approximately 0.012 (Col 3, lines 1-3). With respect to claims 8 & 19, Roberts discloses that the tape member (22) has a thickness (Fig 4). With respect to claims 9 & 20, Roberts teaches that the corrugated tape member (Figs 2 & 5) is corrugated across a length of the tape (11). With respect to claims 10 & 21, Roberts teaches that the tape (11) may be corrugated, comprising ridges (11b) and grooves (11b) having a corrugation length (X) measured from a first ridge (11b) to a second ridge (11b). With respect to claim 26, Roberts teaches that the tape (11) has a thickness exceeding the actual thickness of the tape member (Col 3, lines 1-10). With

Art Unit: 2831

respect to claim 27, Roberts teaches that the tape member (11) provides a spacing around the conductors (10) that equals or exceeds a spacing achieved by a flat tape member having an equivalent actual thickness (Fig 3, Col 3, lines 1-10).

With respect to claims 1, 7-10, 17, 18-21, and 22-23, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the tape member of AOAPA to comprise the corrugated tape configuration as taught by Roberts because Roberts teaches that such a tape configuration acts as a barrier, provides effective air spaces in the area of the cable core (Col 2, lines 51-55), provides pneumatic cushioning against mechanical forces applied to the cable that might otherwise damage the conductor insulation (Col 2, lines 58-61), and prevents moisture that may change the electrical properties of the cable (Col 2, lines 65-69) and since it has been held that a change in form cannot sustain patentability where involved is only extended application of obvious attributes from a prior art. *In re Span-Deck Inc. vs. Fab-Con Inc.* (CA 8, 1982) 215 USPQ 835.

With respect to claim 10 & 21, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the length of corrugations of modified AOAPA to comprise a length of approximately 0.012 inches, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980)

Response to Arguments

7. Applicant's arguments with respect to claims 1-30 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Based on the new rejection, this office action is non-final.

Communication

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Mayo III whose telephone number is (571)-272-1978. The examiner can normally be reached on M-F 8:30am-6:00 pm (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (571) 272-2800 ext 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2831

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



WHM III
February 20, 2004

William H. Mayo III
Primary Examiner
Art Unit 2831